

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	PANCIRNI #3-7
Doc ID	1372461

All Electric Logs Run

DIL
DUCP
MEL
BHCS



MDCI  
Pancirni #3-7  
1650'FSL 330'FEL  
Sec. 7-2S-36W  
3378' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3278	+100	-2	3278	100	-2
B/Anhydrite	3311	+67	-2	3310	68	-1
Topeka	4087	-709	-2	4083	-705	+2
Oread	4223	-845	-2	4219	-841	+2
Lansing	4306	-928	Flat	4304	-926	+2
Stark	4527	-1149	Flat	4523	-1145	+4
Mound City	4578	-1200	-1	4574	-1196	+3
Ft Scott	4705	-1327	Flat	4706	-1328	-1
Excello	4756	-1378	+2	4757	-1379	+1
Celia	4786	-1408	-1	4785	-1407	Flat
RTD	4900					
LTD	4896					



ERICKSON WELLSITE GEOLOGY



Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Pancirni #3-7  
 Location: SW NW SW Sec 7 T2S R36W  
 License Number: 15-153-21196  
 Spud Date: 8/2/2017  
 Surface Coordinates: 1650' FSL & 330' FWL  
 Region: Rawlins County, KS  
 Drilling Completed: 8/10/2017  
 Bottom Hole Coordinates: Surface Casing: 8 5/8" @345'  
 Production Casing: 5 1/2" @4894'  
 Ground Elevation (ft): 3373  
 K.B. Elevation (ft): 3378  
 Logged Interval (ft): 3980  
 To: TD  
 Total Depth (ft): 4900  
 Formation:  
 Type of Drilling Fluid: Chemical Mud  
 Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Murfin Drilling Co., Inc.  
 Address: 250 N Water, Suite 300  
 Wichita, KS 67202

GEOLOGIST

Name: Clayton Erickson  
 Company: Erickson Wellsite Geology  
 Address: 402 Palmer Street  
 P.O. Box 294  
 Loomis, NE 68958

DSTs

DST #1 4176-4245 30-60-60-90; Hydro: 2072-2063 IFF: 17-43 ISIP: 474 FFP: 48-78 FSIP: 473; Rec: 15' 1%g 50%o 49% m 60' 5%g 34%o 61% m 60' 10%g 5%o 85% m; BHT: 138F; IF: 3 1/4" ISI: dead FF: 3" FSI: dead  
 DST #2 4248-4330 30-60-60-90; Hydro: 2130-2121 IFF: 18-97 ISIP: 1281 FFP: 101-142 FSIP: 1212; Rec: 390' GIP 30' 2%o 20%w 75% m 370' 8%g 1%o 30%w 61% m 1490' trace oil 97%w 3% m; BHT: 151 F; RW: .511@79.1 F Chl: 11,000ppm; IF: BOB 18 1/2min ISI: surface dead in 20min FF: BOB 18 1/2min FSI: 2 3/4"  
 DST #3 4326-4385 30-60-30-60; Hydro: 2138-2107 IFF: 198-729 ISIP: 920 FFP: 742-892 FSIP: 923; Rec: 120' 3%g 2%o 20%w 75% m 370' 8%g 1%o 30%w 61% m 1490' trace oil 97%w 3% m; BHT: 151 F; RW: .511@79.1 F Chl: 11,000ppm; IF: BOB 1 1/2min ISI: dead FF: BOB 3 1/4min FSI: dead  
 DST #4 4435-4530 30-60-30-60; Hydro: 2243-2243 IFF: 18-27 ISIP: 1043 FFP: 28-43 FSIP: 1062; Rec: 115' GIP 10' 94%o 6% m 53' 10%g 35%o 55% m; BHT: 141F Grav: 31.2; IF: 2 1/2" ISI: dead FF: 4" FSI: dead  
 DST #5 4624-4760 30-60-30-60; Hydro: 2339-2302 IFF: 20-28 ISIP: 854 FFP: 30-37 FSIP: 759; Rec: 45' 1%o 99% m; BHT: 142 F; IF: 1 3/4" ISI: dead FF: dead FSI: dead

COMMENTS

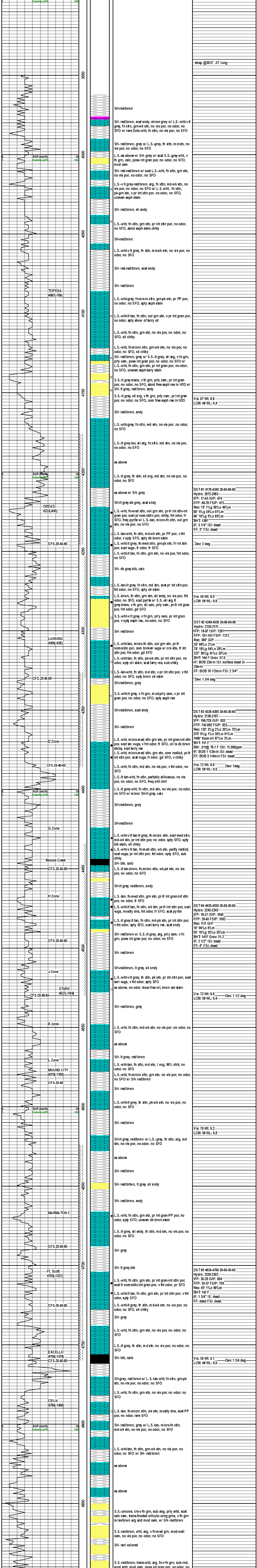
Based upon good shows of oil and positive DST results from DST #1 and DST #2 it was decided to run production casing to further evaluate the economic potential of this well.

FORMATION TOPS

Anhydrite	Log Tops	Sample tops
Base Anhy	3278(+100)	3278(+100)
TOPEKA	3310(+68)	3311(+67)
OREAD	4086(-708)	4087(-709)
LANSING	4220(-842)	4223(-845)
STARK	4304(-926)	4306(-928)
MOUND CITY	4522(-1144)	4527(-1149)
FT SCOTT	4577(-1199)	4578(-1200)
EXCELLO	4706(-1328)	4705(-1327)
CELIA	4786(-1408)	4786(-1408)
TD	4896(-1518)	4900(-1522)

ROCK TYPES: Anhy, Bent, Brecc, Cht, Clst, Carb. shale, Arkose, Dol, Gyp, Igne, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Shgy, Siltst, Ss, Till

OTHER SYMBOLS: OIL SHOW Even, Spotted Ques, Dead, INTERVAL Dst



Remarks section containing DST data and wellbore observations:

- strap @3812' .31' long
- DST #1 4176-4245 30-60-60-90  
Hydro: 2072-2063  
IFF: 17-43 ISIP: 474  
FFP: 48-78 FSIP: 473  
Rec: 15' 1%g 50%o 49% m  
60' 5%g 34%o 61% m  
60' 10%g 5%o 85% m  
BHT: 138F  
IF: 3 1/4" ISI: dead  
FF: 3" FSI: dead
- DST #2 4248-4330 30-60-60-90  
Hydro: 2130-2121  
IFF: 18-97 ISIP: 1281  
FFP: 101-142 FSIP: 1212  
Rec: 390' GIP  
30' 2%o 20%w 75% m  
370' 8%g 1%o 30%w 61% m  
1490' trace oil 97%w 3% m  
BHT: 151 F  
RW: .511@79.1 F Chl: 11,000ppm  
IF: BOB 18 1/2min ISI: surface dead in 20min  
FF: BOB 18 1/2min FSI: 2 3/4"  
Dev: 2 deg
- DST #3 4326-4385 30-60-30-60  
Hydro: 2138-2107  
IFF: 198-729 ISIP: 920  
FFP: 742-892 FSIP: 923  
Rec: 120' 3%g 2%o 20%w 75% m  
370' 8%g 1%o 30%w 61% m  
1490' trace oil 97%w 3% m  
BHT: 151 F  
RW: .511@79.1 F Chl: 11,000ppm  
IF: BOB 1 1/2min ISI: dead  
FF: BOB 3 1/4min FSI: dead
- DST #4 4435-4530 30-60-30-60  
Hydro: 2243-2243  
IFF: 18-27 ISIP: 1043  
FFP: 28-43 FSIP: 1062  
Rec: 115' GIP  
10' 94%o 6% m  
53' 10%g 35%o 55% m  
BHT: 141F Grav: 31.2  
IF: 2 1/2" ISI: dead  
FF: 4" FSI: dead
- DST #5 4624-4760 30-60-30-60  
Hydro: 2339-2302  
IFF: 20-28 ISIP: 854  
FFP: 30-37 FSIP: 759  
Rec: 45' 1%o 99% m  
BHT: 142 F  
IF: 1 3/4" ISI: dead  
FF: dead FSI: dead
- Vis: 67 Wt: 8.8  
LCM: 4# WL: 6.4
- Vis: 54 Wt: 8.9  
LCM: 5# WL: 6.8
- Vis: 72 Wt: 8.8  
LCM: 5# WL: 6.0
- Vis: 76 Wt: 9.2  
LCM: 5# WL: 6.8
- Vis: 59 Wt: 9.1  
LCM: 4# WL: 6.0
- Dev: 1 deg
- Dev: 1 1/2 deg
- Dev: 1 3/4 deg
- Strap: .09' long  
Dev: 1 1/2 deg





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

### **Pancirini #3-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2017.08.05 @ 23:12:00

End Date: 2017.08.06 @ 07:51:30

Job Ticket #: 63335                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.08.10 @ 10:27:28



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63335

**DST#: 1**

ATTN: Clayton Erickson

Test Start: 2017.08.05 @ 23:12:00

## GENERAL INFORMATION:

Formation: **Oread**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:24:15

Time Test Ended: 07:51:30

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 83

**Interval: 4176.00 ft (KB) To 4245.00 ft (KB) (TVD)**

Reference Elevations: 3378.00 ft (KB)

Total Depth: 4245.00 ft (KB) (TVD)

3373.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625 Inside**

Press@RunDepth: 78.19 psig @ 4177.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.05

End Date:

2017.08.06

Last Calib.:

2017.08.06

Start Time: 23:12:05

End Time:

07:51:30

Time On Btm:

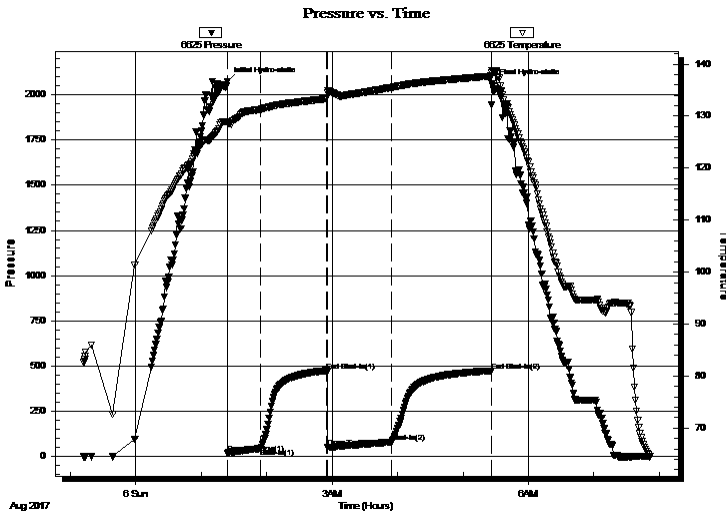
2017.08.06 @ 01:24:00

Time Off Btm:

2017.08.06 @ 05:26:45

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to 3 1/4"  
60 - IS: No blow back  
60 - FF: Blow started at 5 min., built to 3"  
90 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2071.71	128.96	Initial Hydro-static
1	17.48	128.62	Open To Flow (1)
31	42.66	131.30	Shut-In(1)
91	473.84	133.36	End Shut-In(1)
92	48.41	134.58	Open To Flow (2)
151	78.19	135.51	Shut-In(2)
242	472.84	137.69	End Shut-In(2)
243	2063.21	138.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM 85%m, 10%g, 5%o	0.30
60.00	OCM 61%m, 34%o, 5%g	0.30
15.00	MO 50%o, 49%m, 1%g	0.07

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63335

**DST#: 1**

ATTN: Clayton Erickson

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Unit No: 83

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Reference Elevations: 3378.00 ft (KB)

Total Depth: 4245.00 ft (KB) (TVD)

3373.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8017**

**Outside**

Press@RunDepth: psig @ 4177.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.05

End Date:

2017.08.06

Last Calib.:

2017.08.06

Start Time: 23:12:05

End Time:

07:51:00

Time On Btm:

Time Off Btm:

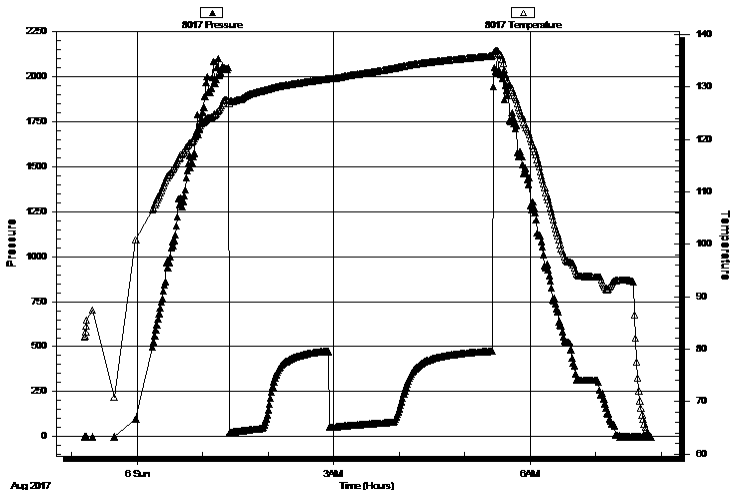
TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3 1/4"

60 - IS: No blow back

60 - FF: Blow started at 5 min., built to 3"

90 - FS: No blow back

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM 85% <i>m</i> , 10% <i>g</i> , 5% <i>o</i>	0.30
60.00	OCM 61% <i>m</i> , 34% <i>o</i> , 5% <i>g</i>	0.30
15.00	MO 50% <i>o</i> , 49% <i>m</i> , 1% <i>g</i>	0.07

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63335

**DST#: 1**

ATTN: Clayton Erickson

Test Start: 2017.08.05 @ 23:12:00

## Tool Information

Drill Pipe:	Length: 3965.00 ft	Diameter: 3.80 inches	Volume: 55.62 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 56.63 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4176.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 ft			
Tool Length:	98.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4148.00	
Shut In Tool	5.00			4153.00	
Hydraulic tool	5.00			4158.00	
Jars	5.00			4163.00	
Safety Joint	3.00			4166.00	
Packer	5.00			4171.00	29.00 Bottom Of Top Packer
Packer	5.00			4176.00	
Packer - Shale	0.00			4176.00	
Stubb	1.00			4177.00	
Recorder	0.00	6625	Inside	4177.00	
Recorder	0.00	8017	Outside	4177.00	
Perforations	29.00			4206.00	
Blank Spacing	33.00			4239.00	
Perforations	3.00			4242.00	
Bullnose	3.00			4245.00	69.00 Bottom Packers & Anchor

**Total Tool Length: 98.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63335

**DST#: 1**

ATTN: Clayton Erickson

Test Start: 2017.08.05 @ 23:12:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	GOCM 85%m, 10%g, 5%o	0.295
60.00	OCM 61%m, 34%o, 5%g	0.295
15.00	MO 50%o, 49%m, 1%g	0.074

Total Length: 135.00 ft

Total Volume: 0.664 bbl

Num Fluid Samples: 0

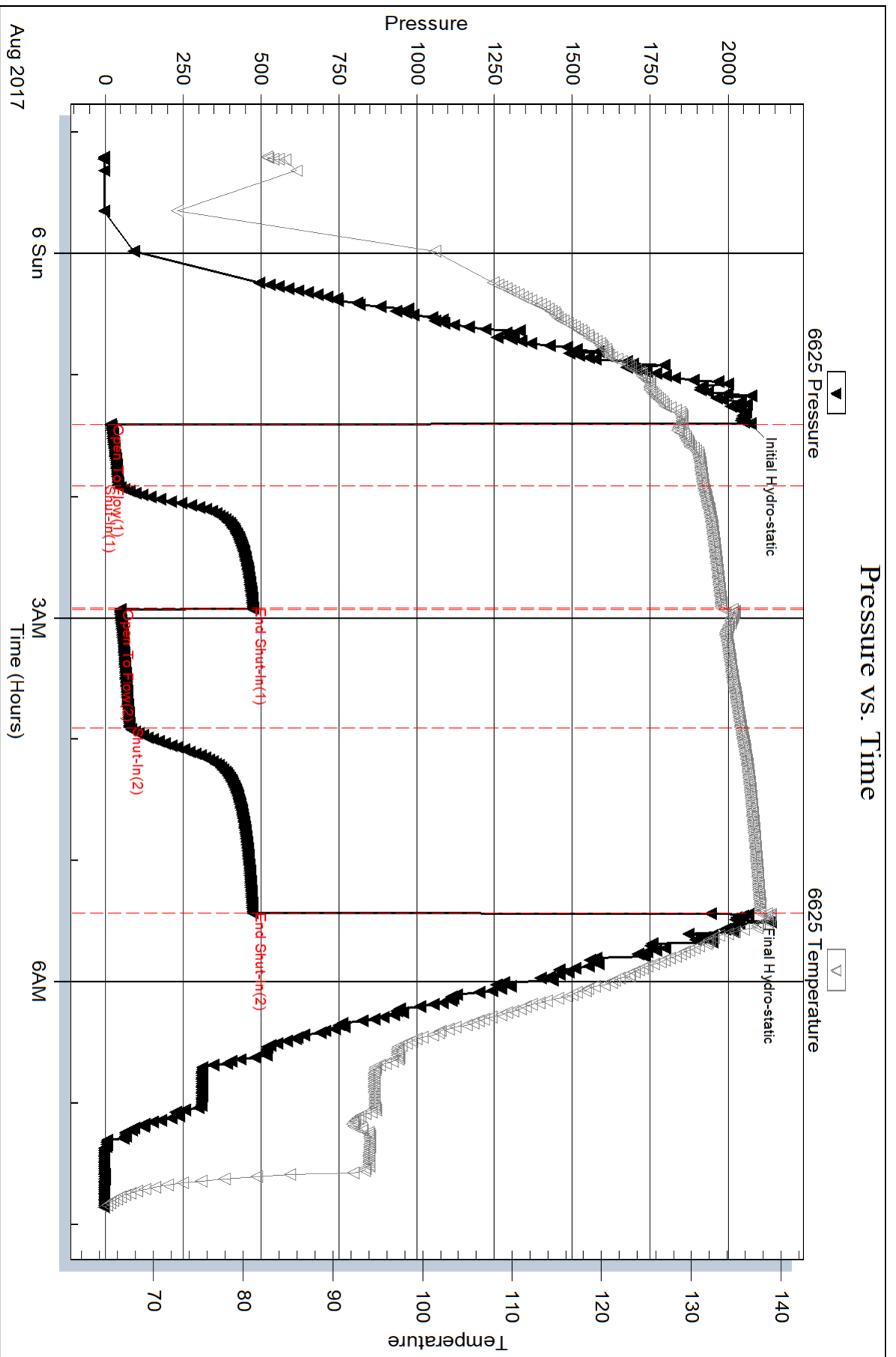
Num Gas Bombs: 0

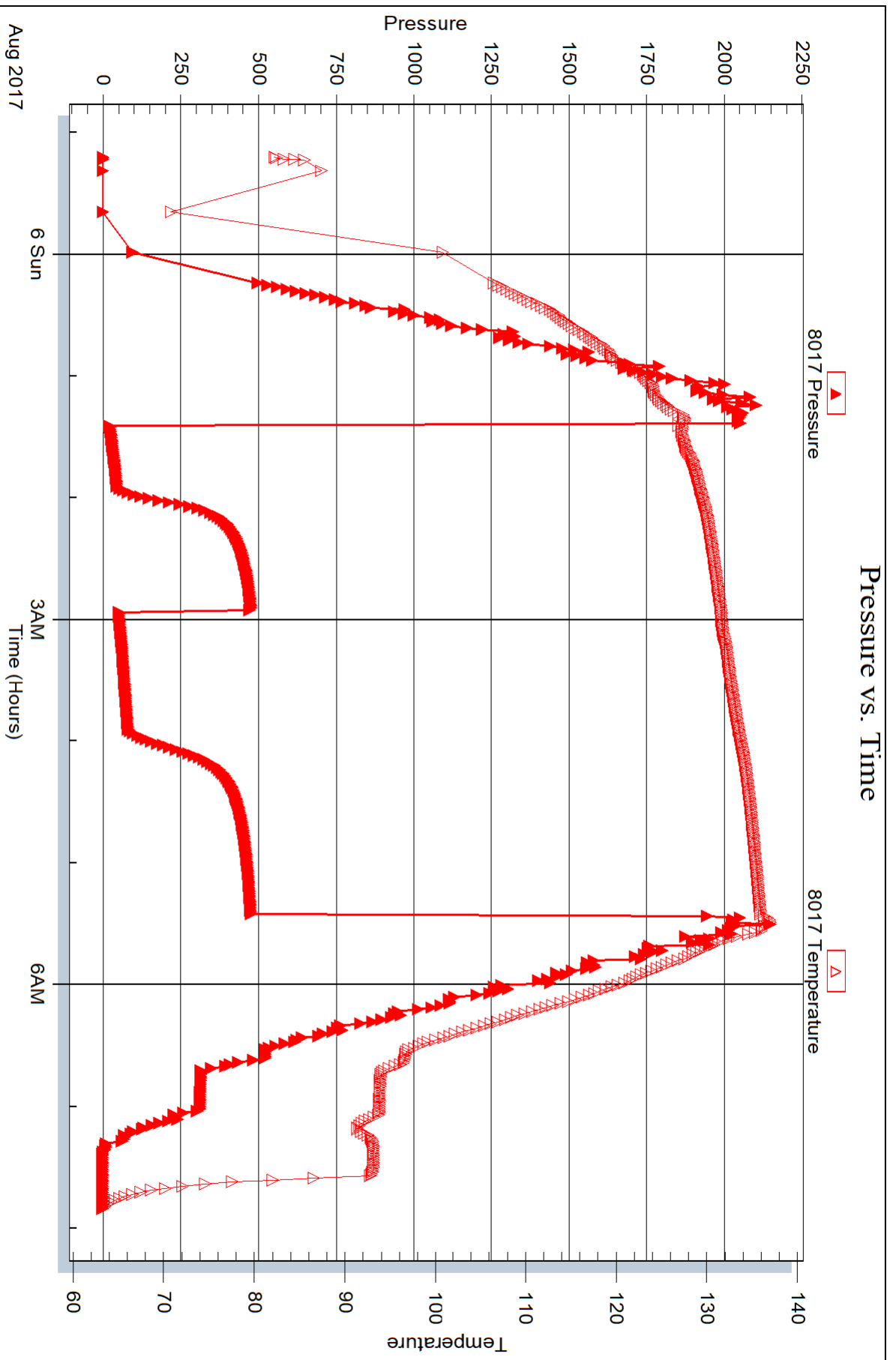
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

### **Pancirini #3-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2017.08.06 @ 18:27:00

End Date: 2017.08.07 @ 02:44:15

Job Ticket #: 63336                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.08.10 @ 10:24:45





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63336

**DST#: 2**

ATTN: Clayton Erickson

Test Start: 2017.08.06 @ 18:27:00

## GENERAL INFORMATION:

Formation: **LKC "A"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:28:00  
 Time Test Ended: 02:44:15  
 Interval: **4248.00 ft (KB) To 4330.00 ft (KB) (TVD)**  
 Total Depth: 4330.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3378.00 ft (KB)  
 3373.00 ft (CF)  
 KB to GR/CF: 5.00 ft

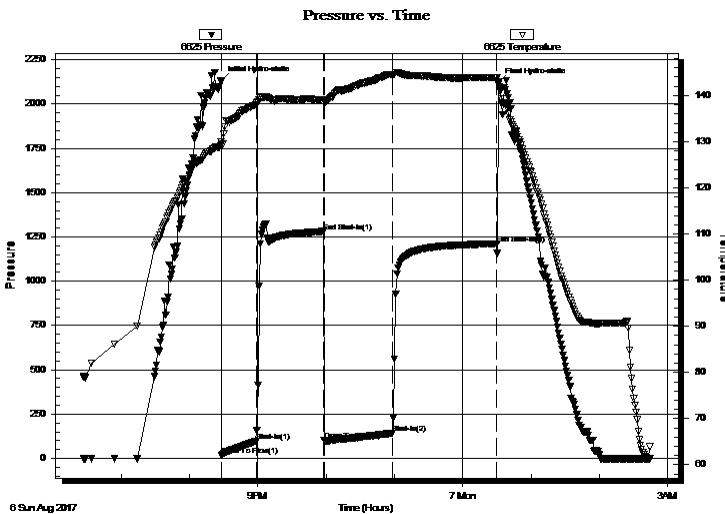
## Serial #: 6625

Inside

Press@RunDepth: 142.44 psig @ 4249.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.06 End Date: 2017.08.07 Last Calib.: 2017.08.07  
 Start Time: 18:27:05 End Time: 02:44:14 Time On Btm: 2017.08.06 @ 20:27:45  
 Time Off Btm: 2017.08.07 @ 00:31:00

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to BOB (11") at 22 min.  
 60 - IS: Weak surface blow back, dead by 20 min.  
 60 - FF: Blow started at 2 min., built to BOB at 18 1/2 min.  
 90 - FS: Blow back built to 2 3/4"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2130.12	130.04	Initial Hydro-static
1	18.07	129.61	Open To Flow (1)
31	96.82	138.07	Shut-In(1)
90	1280.94	139.20	End Shut-In(1)
91	101.18	138.61	Open To Flow (2)
151	142.44	144.48	Shut-In(2)
243	1211.98	143.85	End Shut-In(2)
244	2121.35	142.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
237.00	GMCO 41%o, 39%g, 20%m	1.46
78.00	GMCO 54%o, 28%m, 18%g	1.09
30.00	Oil 98%o, 2%m	0.42
0.00	GIP = 390'	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Clayton Erickson

**7-2s-36w Rawlins,KS**  
**Pancirini #3-7**  
Job Ticket: 63336      **DST#: 2**  
Test Start: 2017.08.06 @ 18:27:00

### GENERAL INFORMATION:

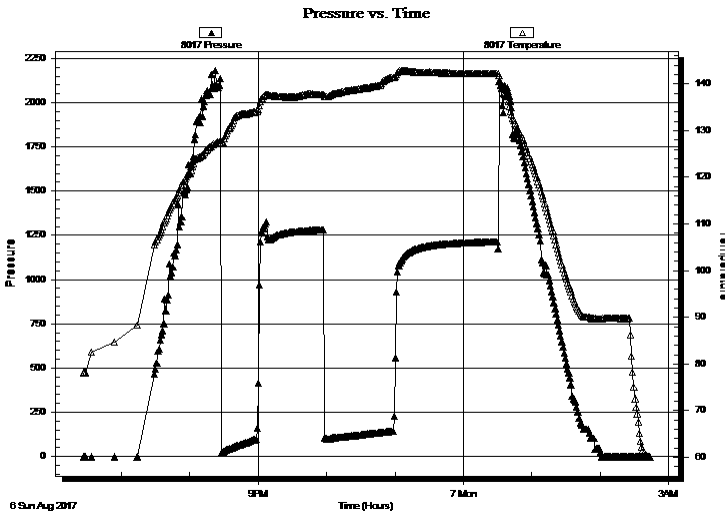
Formation: **LKC "A"**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 20:28:00      Test Type: Conventional Bottom Hole (Reset)  
Time Test Ended: 02:44:15      Tester: James Winder  
Unit No: 83  
**Interval: 4248.00 ft (KB) To 4330.00 ft (KB) (TVD)**      Reference Elevations: 3378.00 ft (KB)  
Total Depth: 4330.00 ft (KB) (TVD)      3373.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair      KB to GR/CF: 5.00 ft

### Serial #: 8017      Outside

Press@RunDepth:      psig @ 4249.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.08.06      End Date: 2017.08.07      Last Calib.: 2017.08.07  
Start Time: 18:27:05      End Time: 02:43:44      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30 - IF: 1/4" Blow at open, built to BOB (11") at 22 min.  
60 - IS: Weak surface blow back, dead by 20 min.  
60 - FF: Blow started at 2 min., built to BOB at 18 1/2 min.  
90 - FS: Blow back built to 2 3/4"

### PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
237.00	GMCO 41%o, 39%g, 20%m	1.46
78.00	GMCO 54%o, 28%m, 18%g	1.09
30.00	Oil 98%o, 2%m	0.42
0.00	GIP = 390'	0.00

\* Recovery from multiple tests

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63336

**DST#: 2**

ATTN: Clayton Erickson

Test Start: 2017.08.06 @ 18:27:00

## Tool Information

Drill Pipe:	Length: 4028.00 ft	Diameter: 3.80 inches	Volume: 56.50 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: 57.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4248.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	111.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4220.00	
Shut In Tool	5.00			4225.00	
Hydraulic tool	5.00			4230.00	
Jars	5.00			4235.00	
Safety Joint	3.00			4238.00	
Packer	5.00			4243.00	29.00 Bottom Of Top Packer
Packer	5.00			4248.00	
Packer - Shale	0.00			4248.00	
Stubb	1.00			4249.00	
Recorder	0.00	6625	Inside	4249.00	
Recorder	0.00	8017	Outside	4249.00	
Perforations	14.00			4263.00	
Blank Spacing	64.00			4327.00	
Bullnose	3.00			4330.00	82.00 Bottom Packers & Anchor

**Total Tool Length: 111.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63336

**DST#: 2**

ATTN: Clayton Erickson

Test Start: 2017.08.06 @ 18:27:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
237.00	GMCO 41%o, 39%g, 20%m	1.457
78.00	GMCO 54%o, 28%m, 18%g	1.094
30.00	Oil 98%o, 2%m	0.421
0.00	GIP = 390'	0.000

Total Length: 345.00 ft      Total Volume: 2.972 bbl

Num Fluid Samples: 0

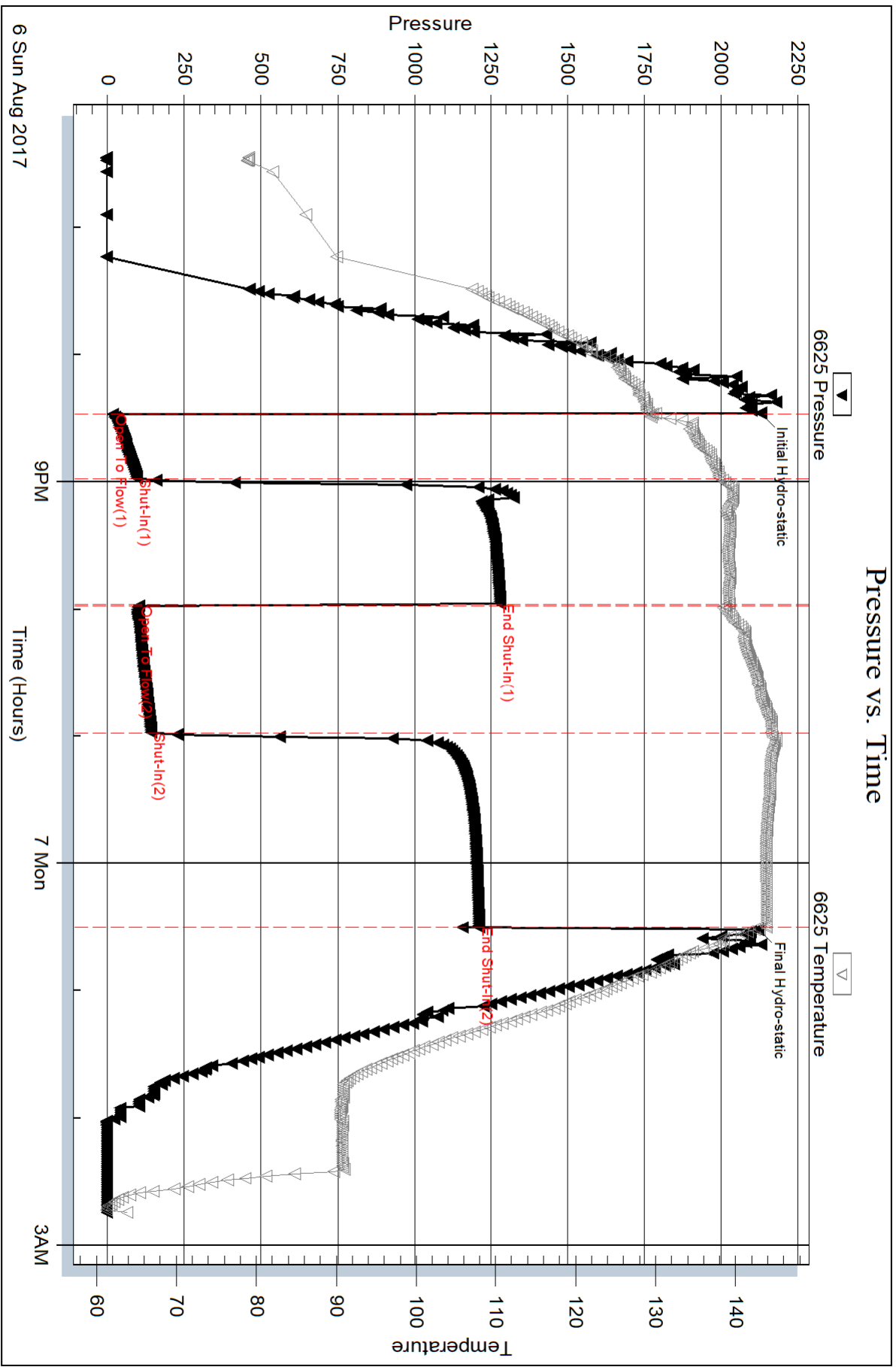
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 38 api @ 64 deg F  
Corrected Gravity = 37.6 api

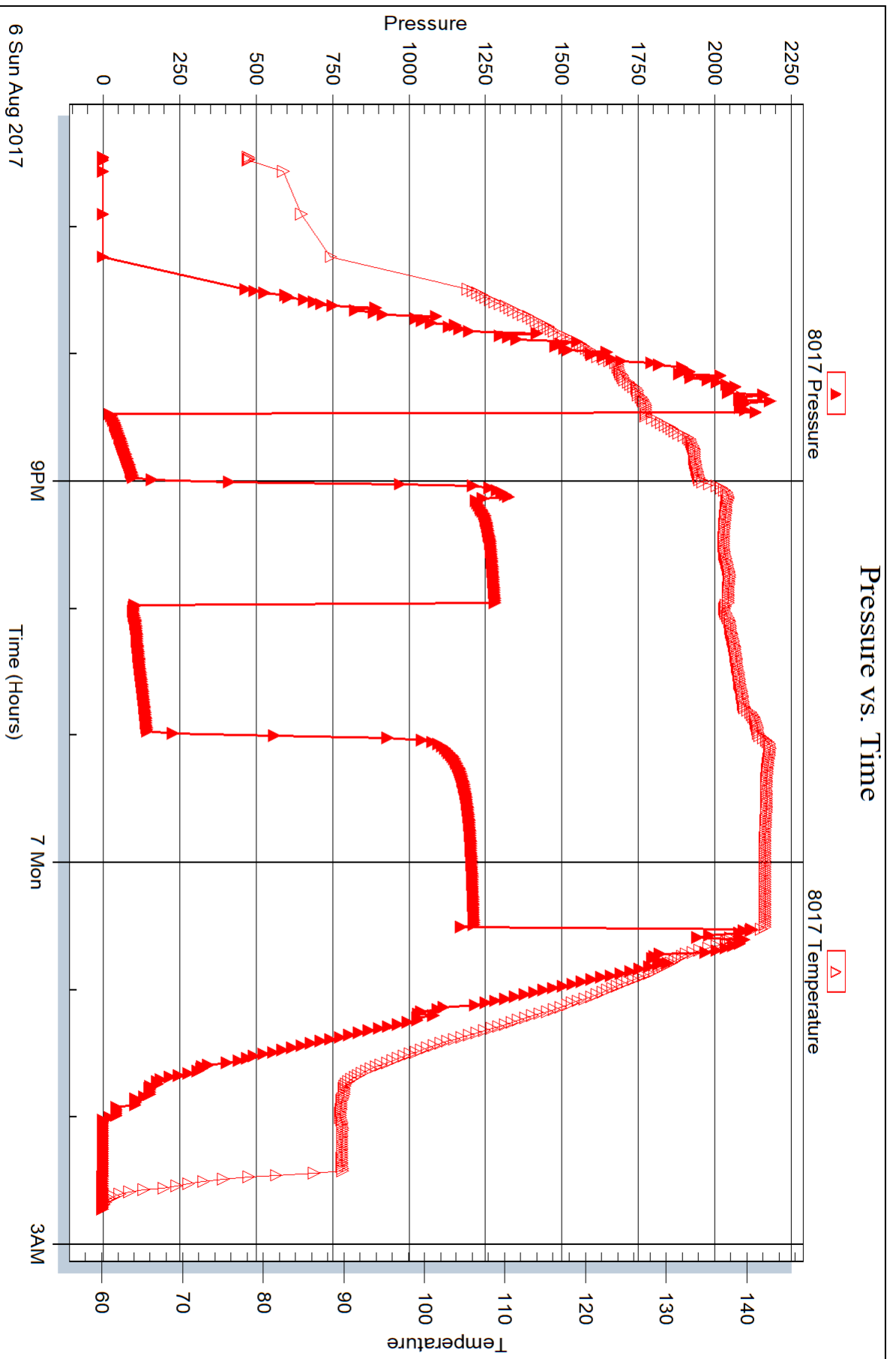


Serial #: 8017

Outside Murfin Drilling Co., Inc.

Pancirini #3-7

DST Test Number: 2







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

### **Pancirini #3-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2017.08.07 @ 12:06:00

End Date: 2017.08.07 @ 19:35:15

Job Ticket #: 63337                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.08.10 @ 10:21:26



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63337

**DST#: 3**

ATTN: Clayton Erickson

Test Start: 2017.08.07 @ 12:06:00

## GENERAL INFORMATION:

Formation: **LKC "D"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 13:41:30 Tester: James Winder  
 Time Test Ended: 19:35:15 Unit No: 83  
 Interval: **4326.00 ft (KB) To 4385.00 ft (KB) (TVD)** Reference Elevations: 3378.00 ft (KB)  
 Total Depth: 4385.00 ft (KB) (TVD) 3373.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

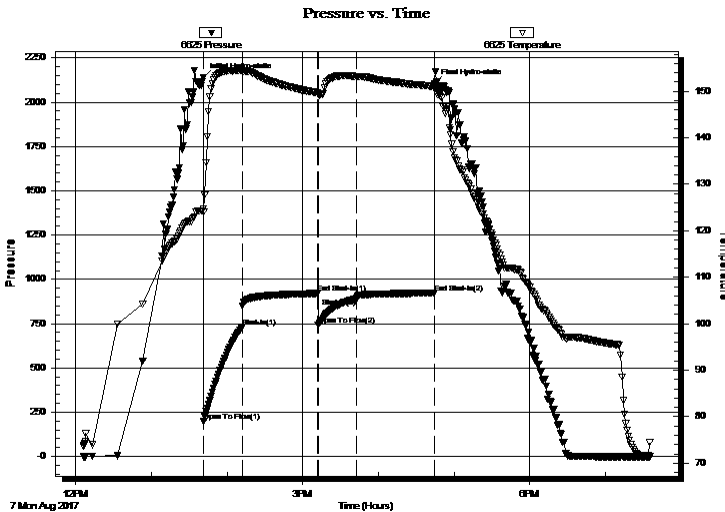
## Serial #: 6625

Inside

Press@RunDepth: 891.79 psig @ 4327.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.07 End Date: 2017.08.07 Last Calib.: 2017.08.07  
 Start Time: 12:06:05 End Time: 19:35:14 Time On Btm: 2017.08.07 @ 13:41:15  
 Time Off Btm: 2017.08.07 @ 16:44:45

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 1 1/2 min.  
 60 - IS: No blow back  
 30 - FF: Blow built to BOB at 3 1/4 min.  
 60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2138.12	124.70	Initial Hydro-static
1	197.76	124.07	Open To Flow (1)
31	728.66	154.36	Shut-In(1)
91	920.39	149.71	End Shut-In(1)
91	741.98	149.42	Open To Flow (2)
122	891.79	153.17	Shut-In(2)
183	922.90	151.03	End Shut-In(2)
184	2106.99	151.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1490.00	Water w/trace oil 97%w , 3%m	19.03
370.00	WCM w/oil spots 61%m, 30%w , 8%g, 1%1.19	5.19
120.00	WCM w/oil spots 75%m, 20%w , 3%g, 2%1.68	1.68

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63337

**DST#: 3**

ATTN: Clayton Erickson

Test Start: 2017.08.07 @ 12:06:00

**GENERAL INFORMATION:**

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:41:30

Time Test Ended: 19:35:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

**Interval: 4326.00 ft (KB) To 4385.00 ft (KB) (TVD)**

Total Depth: 4385.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3378.00 ft (KB)

3373.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8017 Outside**

Press@RunDepth: psig @ 4327.00 ft (KB)

Start Date: 2017.08.07 End Date: 2017.08.07

Start Time: 12:06:05 End Time: 19:34:29

Capacity: 8000.00 psig

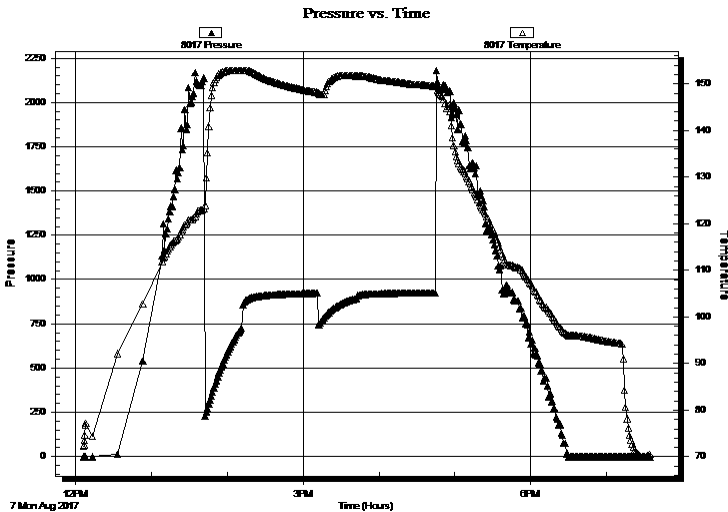
Last Calib.: 2017.08.07

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30 - IF: Blow built to BOB (11") at 1 1/2 min.  
60 - IS: No blow back  
30 - FF: Blow built to BOB at 3 1/4 min.  
60 - FS: No blow back

**PRESSURE SUMMARY**



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
1490.00	Water w/trace oil 97%w , 3% m	19.03
370.00	WCM w/oil spots 61% m, 30% w , 8% g, 1%	5.19
120.00	WCM w/oil spots 75% m, 20% w , 3% g, 2%	1.68

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63337

**DST#: 3**

ATTN: Clayton Erickson

Test Start: 2017.08.07 @ 12:06:00

## Tool Information

Drill Pipe:	Length: 4114.00 ft	Diameter: 3.80 inches	Volume: 57.71 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 58.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4326.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4298.00	
Shut In Tool	5.00			4303.00	
Hydraulic tool	5.00			4308.00	
Jars	5.00			4313.00	
Safety Joint	3.00			4316.00	
Packer	5.00			4321.00	29.00 Bottom Of Top Packer
Packer	5.00			4326.00	
Packer - Shale	0.00			4326.00	
Stubb	1.00			4327.00	
Recorder	0.00	6625	Inside	4327.00	
Recorder	0.00	8017	Outside	4327.00	
Perforations	19.00			4346.00	
Blank Spacing	33.00			4379.00	
Perforations	3.00			4382.00	
Bullnose	3.00			4385.00	59.00 Bottom Packers & Anchor

**Total Tool Length: 88.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63337

**DST#: 3**

ATTN: Clayton Erickson

Test Start: 2017.08.07 @ 12:06:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

11000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1490.00	Water w/trace oil 97%w , 3%m	19.033
370.00	WCM w/oil spots 61%m, 30%w , 8%g, 1%o	5.190
120.00	WCM w/oil spots 75%m, 20%w , 3%g, 2%o	1.683

Total Length: 1980.00 ft      Total Volume: 25.906 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .511 ohms @ 79.1 deg F

Chlorides = 11,000 ppm

Serial #: 6625

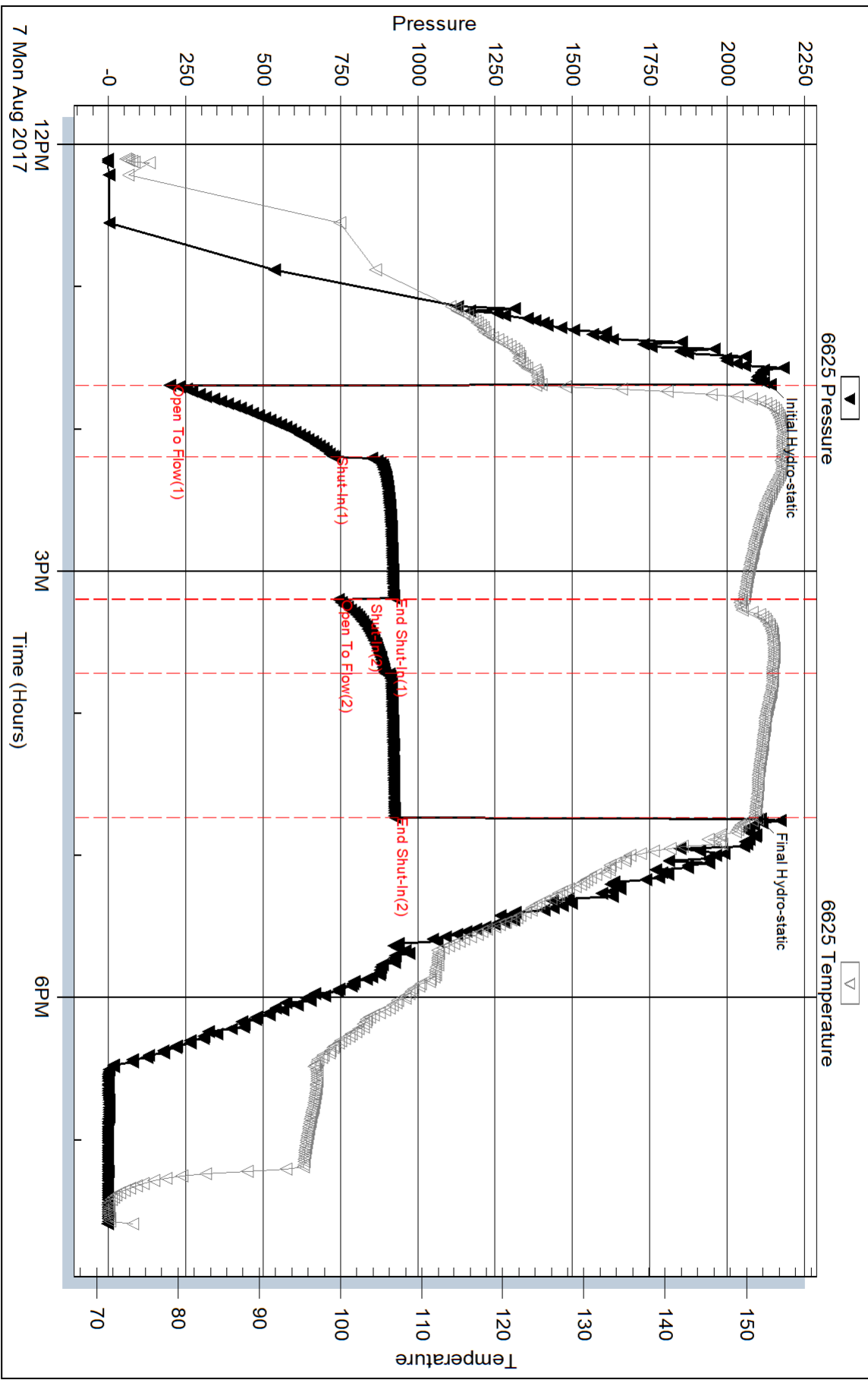
Inside

Murfin Drilling Co., Inc.

Pancirini #3-7

DST Test Number: 3

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63337

Printed: 2017.08.10 @ 10:21:27

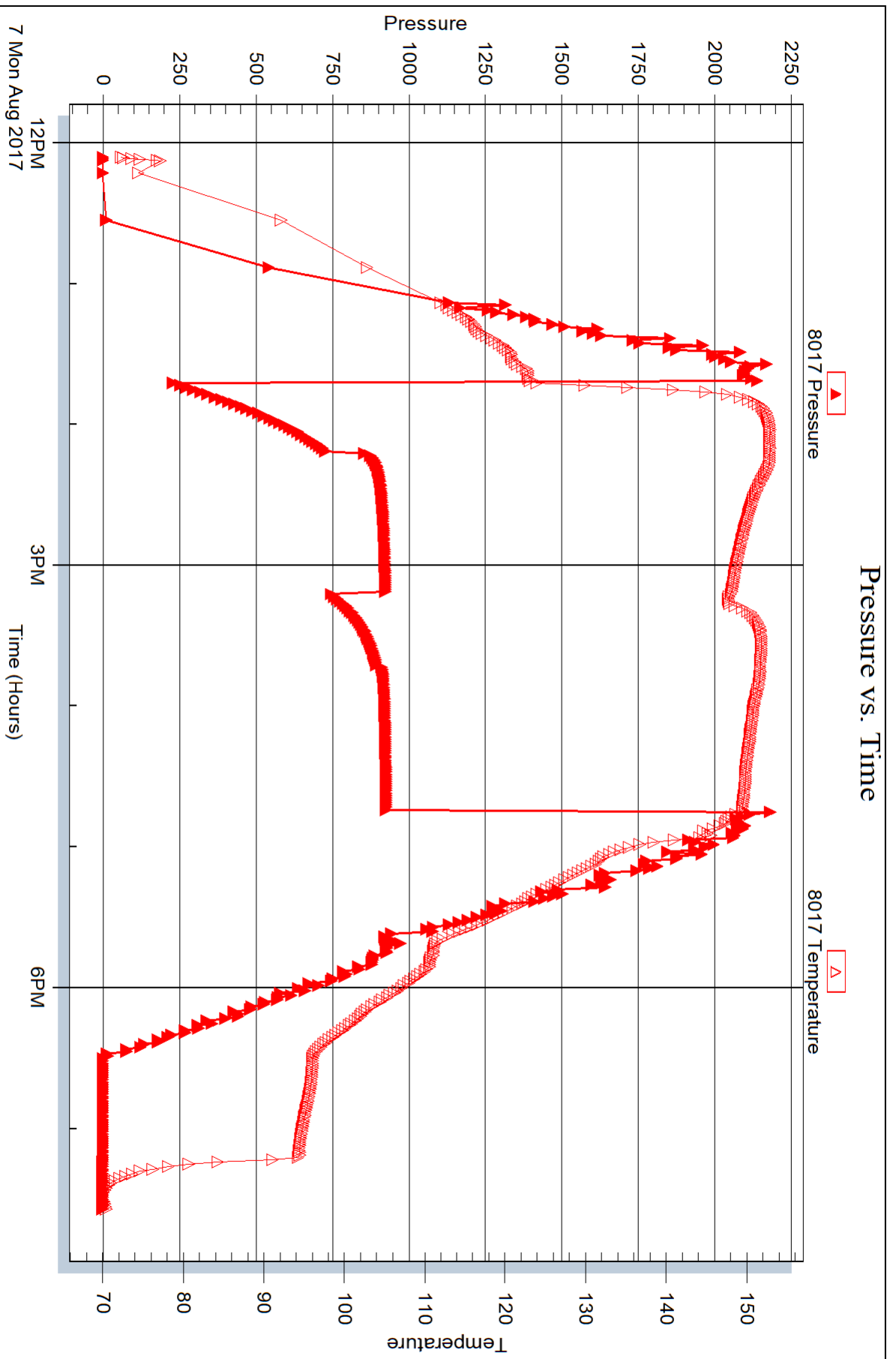


Serial #: 8017

Outside Murfin Drilling Co., Inc.

Pancirini #3-7

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63337

Printed: 2017.08.10 @ 10:21:27



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

### **Pancirini #3-7**

#### **7-2s-36w Rawlins,KS**

Start Date: 2017.08.08 @ 14:04:00

End Date: 2017.08.08 @ 22:18:45

Job Ticket #: 63338                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.08.10 @ 10:19:54



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63338

**DST#: 4**

ATTN: Clayton Erickson

Test Start: 2017.08.08 @ 14:04:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:05:00  
 Time Test Ended: 22:18:45  
 Interval: **4435.00 ft (KB) To 4530.00 ft (KB) (TVD)**  
 Total Depth: 4530.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3378.00 ft (KB)  
 3373.00 ft (CF)  
 KB to GR/CF: 5.00 ft

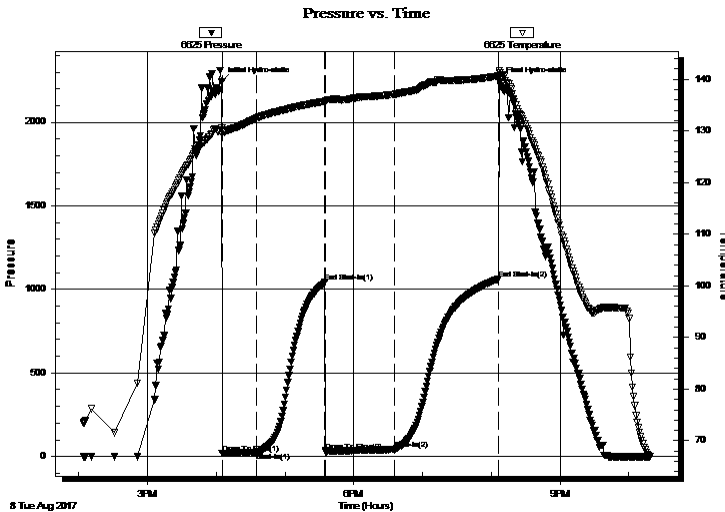
## Serial #: 6625

Inside

Press@RunDepth: 41.81 psig @ 4436.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.08 End Date: 2017.08.08 Last Calib.: 2017.08.08  
 Start Time: 14:04:05 End Time: 22:18:44 Time On Btm: 2017.08.08 @ 16:04:45  
 Time Off Btm: 2017.08.08 @ 20:07:30

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 2 1/2"  
 60 - IS: No blow back  
 60 - FF: Blow built to 4"  
 90 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2243.08	130.50	Initial Hydro-static
1	18.17	130.10	Open To Flow (1)
31	26.82	132.44	Shut-In(1)
90	1042.58	135.71	End Shut-In(1)
91	28.26	135.61	Open To Flow (2)
151	41.81	137.06	Shut-In(2)
242	1062.13	140.68	End Shut-In(2)
243	2243.04	141.27	Final Hydro-static

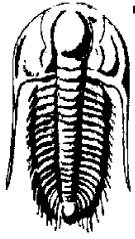
## Recovery

Length (ft)	Description	Volume (bbl)
53.00	GOCM 55%o, 35%o, 10%g	0.26
10.00	SMCO 94%o, 6%m	0.05
0.00	GIP = 115'	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

**7-2s-36w Rawlins,KS**

**Pancirini #3-7**

Job Ticket: 63338

**DST#: 4**

Test Start: 2017.08.08 @ 14:04:00

## GENERAL INFORMATION:

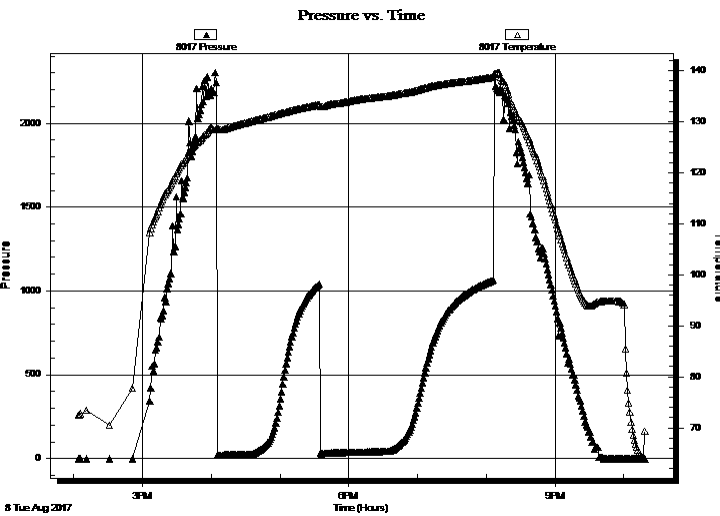
Formation: **LKC "H - J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:05:00  
 Time Test Ended: 22:18:45  
 Interval: **4435.00 ft (KB) To 4530.00 ft (KB) (TVD)**  
 Total Depth: 4530.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 3378.00 ft (KB)  
 3373.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8017

## Outside

Press@RunDepth: psig @ 4436.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.08.08 End Date: 2017.08.08 Last Calib.: 2017.08.08  
 Start Time: 14:04:05 End Time: 22:18:14 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 2 1/2"  
 60 - IS: No blow back  
 60 - FF: Blow built to 4"  
 90 - FS: No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
53.00	GOCM 55%o, 35%o, 10%g	0.26
10.00	SMCO 94%o, 6%m	0.05
0.00	GIP = 115'	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63338

**DST#: 4**

ATTN: Clayton Erickson

Test Start: 2017.08.08 @ 14:04:00

## Tool Information

Drill Pipe:	Length: 4213.00 ft	Diameter: 3.80 inches	Volume: 59.10 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 60.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4435.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	124.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4407.00	
Shut In Tool	5.00			4412.00	
Hydraulic tool	5.00			4417.00	
Jars	5.00			4422.00	
Safety Joint	3.00			4425.00	
Packer	5.00			4430.00	29.00 Bottom Of Top Packer
Packer	5.00			4435.00	
Packer - Shale	0.00			4435.00	
Stubb	1.00			4436.00	
Recorder	0.00	6625	Inside	4436.00	
Recorder	0.00	8017	Outside	4436.00	
Perforations	27.00			4463.00	
Blank Spacing	64.00			4527.00	
Bullnose	3.00			4530.00	95.00 Bottom Packers & Anchor

**Total Tool Length: 124.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63338

**DST#: 4**

ATTN: Clayton Erickson

Test Start: 2017.08.08 @ 14:04:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
53.00	GOCM 55% <i>m</i> , 35% <i>o</i> , 10% <i>g</i>	0.261
10.00	SMCO 94% <i>o</i> , 6% <i>m</i>	0.049
0.00	GIP = 115'	0.000

Total Length: 63.00 ft      Total Volume: 0.310 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 32 api @ 68 deg F

Corrected Gravity = 31.2 api

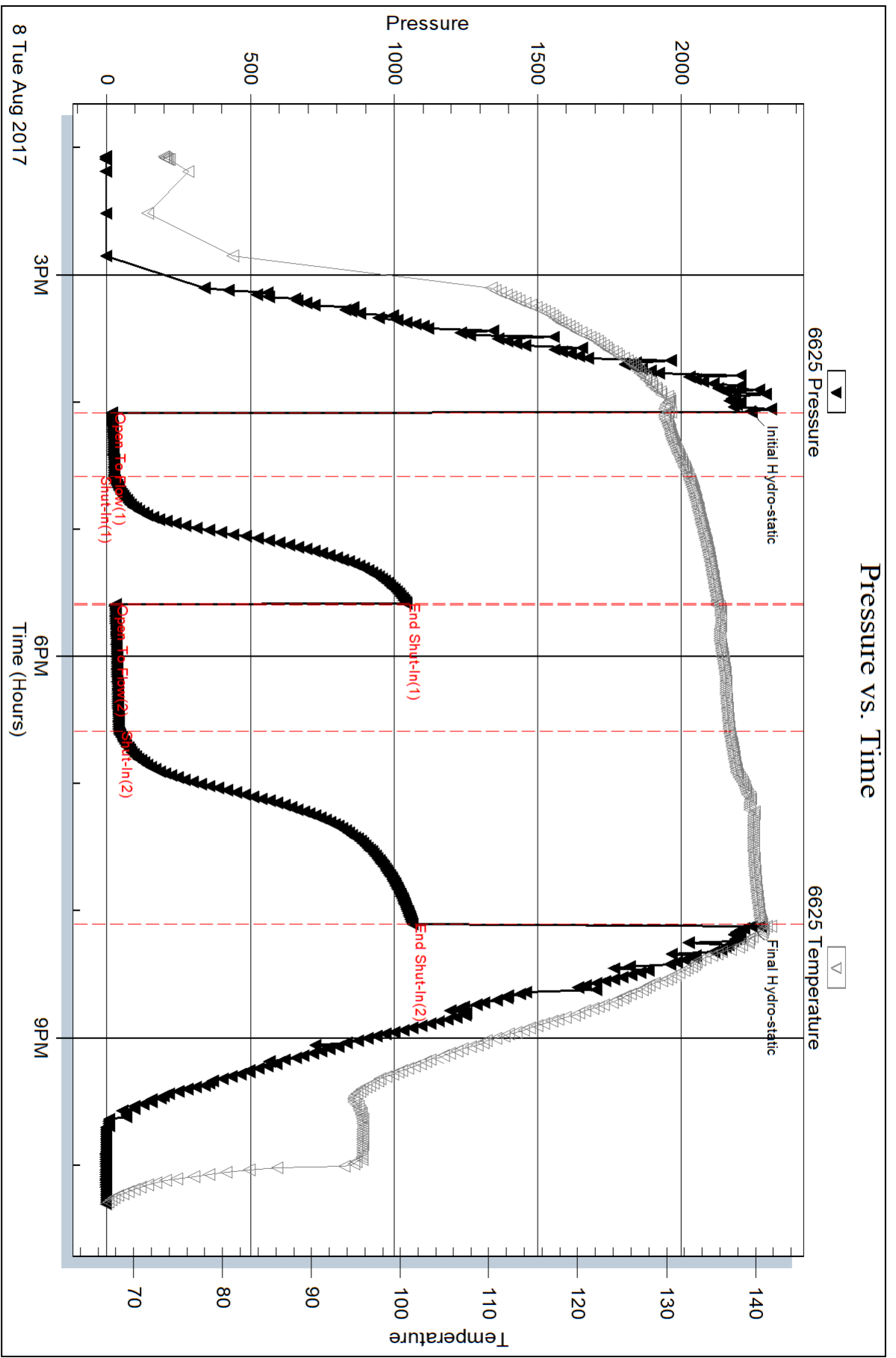
Serial #: 6625

Inside

Murfin Drilling Co., Inc.

Pancirini #3-7

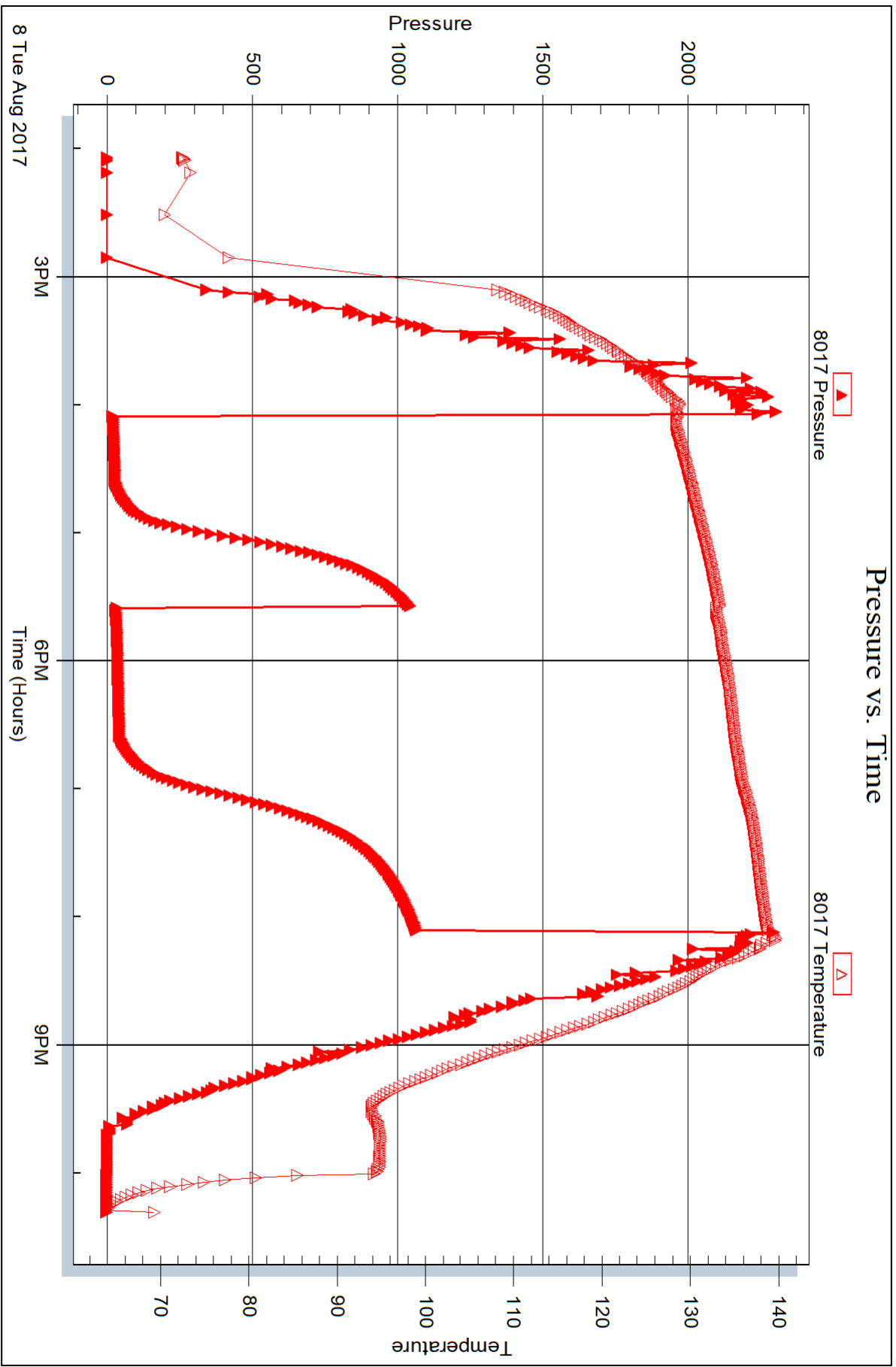
DST Test Number: 4



Triobite Testing, Inc

Ref. No: 63338

Printed: 2017.08.10 @ 10:19:55







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water STE 300  
Wichita, KS 67202

ATTN: Clayton Erickson

### **Pancirini #3-7**

### **7-2s-36w Rawlins,KS**

Start Date: 2017.08.10 @ 00:01:00

End Date: 2017.08.10 @ 07:46:45

Job Ticket #: 63339                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.08.10 @ 10:18:52



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63339

**DST#: 5**

ATTN: Clayton Erickson

Test Start: 2017.08.10 @ 00:01:00

## GENERAL INFORMATION:

Formation: **Marmaton - Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:21:00

Time Test Ended: 07:46:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: **4624.00 ft (KB) To 4760.00 ft (KB) (TVD)**

Reference Elevations: 3378.00 ft (KB)

Total Depth: 4760.00 ft (KB) (TVD)

3373.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6625**

**Inside**

Press@RunDepth: 36.51 psig @ 4625.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.08.10

End Date:

2017.08.10

Last Calib.: 2017.08.10

Start Time: 00:01:05

End Time:

07:46:44

Time On Btm: 2017.08.10 @ 02:20:45

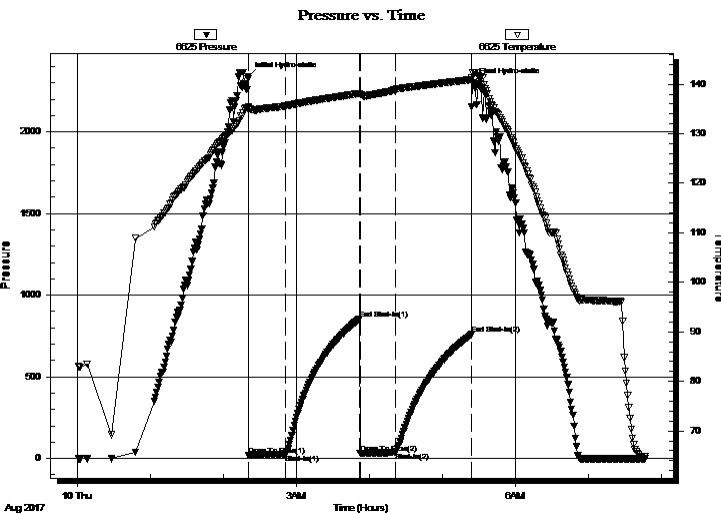
Time Off Btm: 2017.08.10 @ 05:25:00

TEST COMMENT: 30 - IF: Blow built to 1 3/4"

60 - IS: No blow back

30 - FF: No blow

60 - FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2338.89	135.45	Initial Hydro-static
1	19.75	134.88	Open To Flow (1)
31	27.68	135.61	Shut-In(1)
91	853.79	138.13	End Shut-In(1)
92	30.31	137.97	Open To Flow (2)
121	36.51	138.92	Shut-In(2)
183	758.53	140.93	End Shut-In(2)
185	2301.78	142.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud w /oil spots 99%m, 1%o	0.22

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.  
250 N. Water STE 300  
Wichita, KS 67202  
ATTN: Clayton Erickson

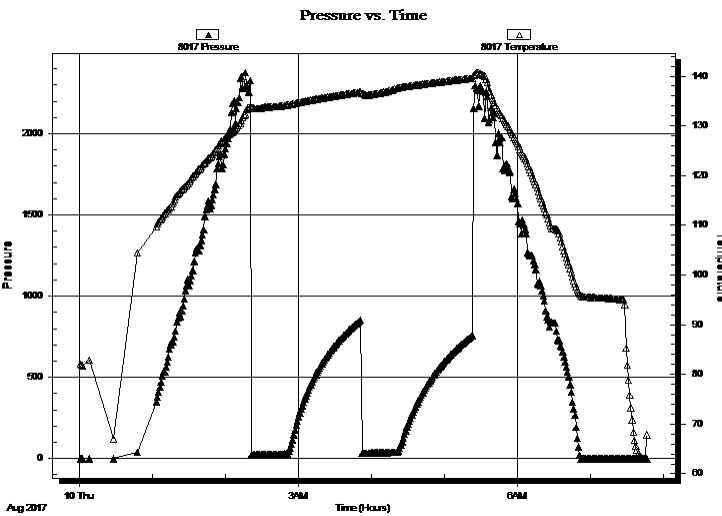
**7-2s-36w Rawlins,KS**  
**Pancirini #3-7**  
Job Ticket: 63339      **DST#: 5**  
Test Start: 2017.08.10 @ 00:01:00

## GENERAL INFORMATION:

Formation: **Marmaton - Ft. Scott**  
Deviated: No Whipstock:                      ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 02:21:00      Tester: James Winder  
Time Test Ended: 07:46:45      Unit No: 83  
**Interval: 4624.00 ft (KB) To 4760.00 ft (KB) (TVD)**      Reference Elevations: 3378.00 ft (KB)  
Total Depth: 4760.00 ft (KB) (TVD)      3373.00 ft (CF)  
Hole Diameter: 7.88 inchesHole Condition: Fair      KB to GR/CF: 5.00 ft

**Serial #: 8017      Outside**  
Press@RunDepth:                      psig @ 4625.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.08.10      End Date: 2017.08.10      Last Calib.: 2017.08.10  
Start Time: 00:01:05      End Time: 07:46:14      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30 - IF: Blow built to 1 3/4"  
60 - IS: No blow back  
30 - FF: No blow  
60 - FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud w/oil spots 99% <sub>m</sub> , 1% <sub>o</sub>	0.22

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63339

**DST#: 5**

ATTN: Clayton Erickson

Test Start: 2017.08.10 @ 00:01:00

## Tool Information

Drill Pipe:	Length: 4401.00 ft	Diameter: 3.80 inches	Volume: 61.73 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 205.00 ft	Diameter: 2.25 inches	Volume: 1.01 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 62.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4624.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	136.00 ft			
Tool Length:	165.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4596.00	
Shut In Tool	5.00			4601.00	
Hydraulic tool	5.00			4606.00	
Jars	5.00			4611.00	
Safety Joint	3.00			4614.00	
Packer	5.00			4619.00	29.00 Bottom Of Top Packer
Packer	5.00			4624.00	
Packer - Shale	0.00			4624.00	
Stubb	1.00			4625.00	
Recorder	0.00	6625	Inside	4625.00	
Recorder	0.00	8017	Outside	4625.00	
Perforations	32.00			4657.00	
Blank Spacing	96.00			4753.00	
Perforations	4.00			4757.00	
Bullnose	3.00			4760.00	136.00 Bottom Packers & Anchor

**Total Tool Length: 165.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co., Inc.

**7-2s-36w Rawlins,KS**

250 N. Water STE 300  
Wichita, KS 67202

**Pancirini #3-7**

Job Ticket: 63339

**DST#: 5**

ATTN: Clayton Erickson

Test Start: 2017.08.10 @ 00:01:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	Mud w /oil spots 99%m, 1%o	0.221

Total Length: 45.00 ft      Total Volume: 0.221 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6625

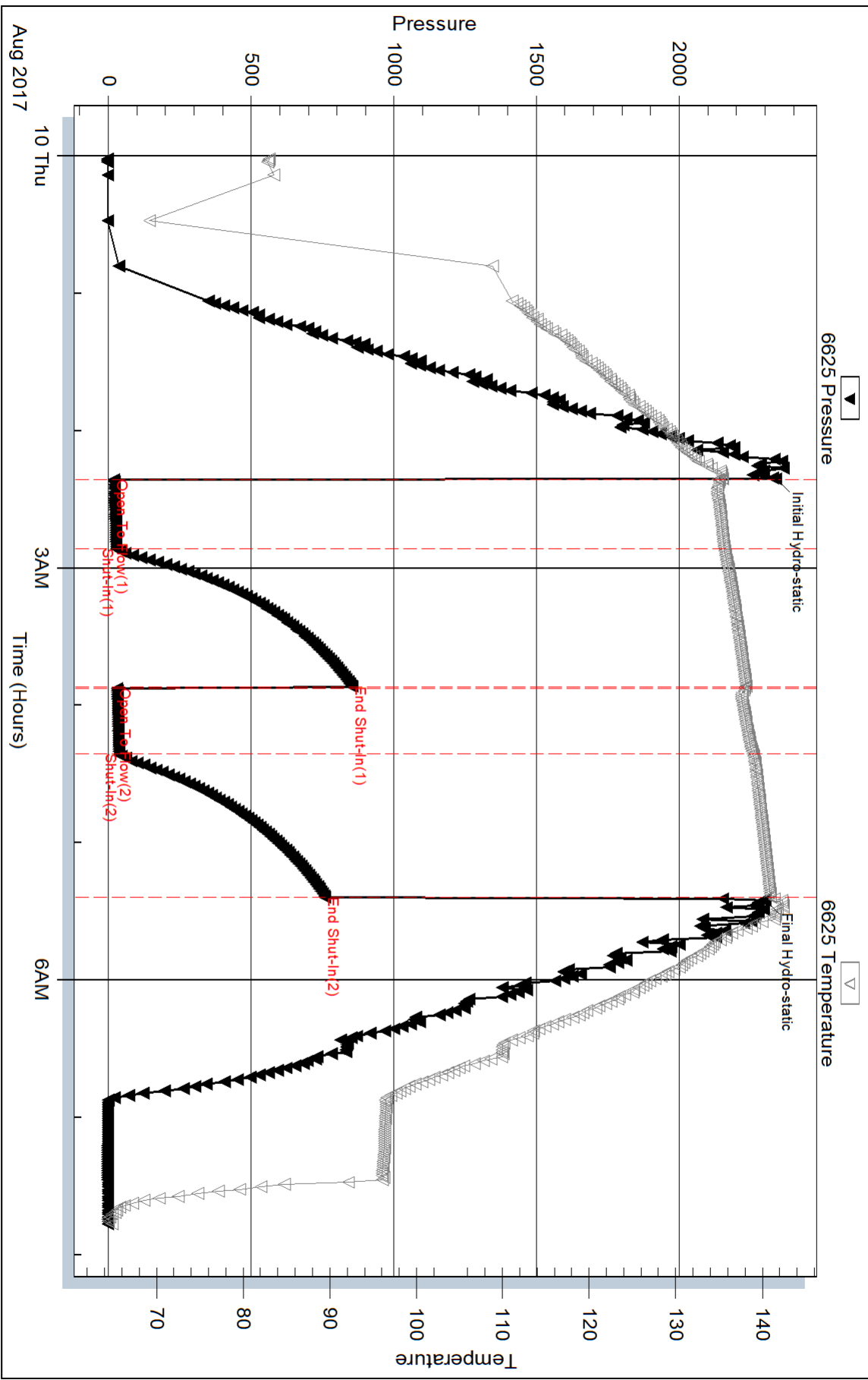
Inside

Murfin Drilling Co., Inc.

Pancirini #3-7

DST Test Number: 5

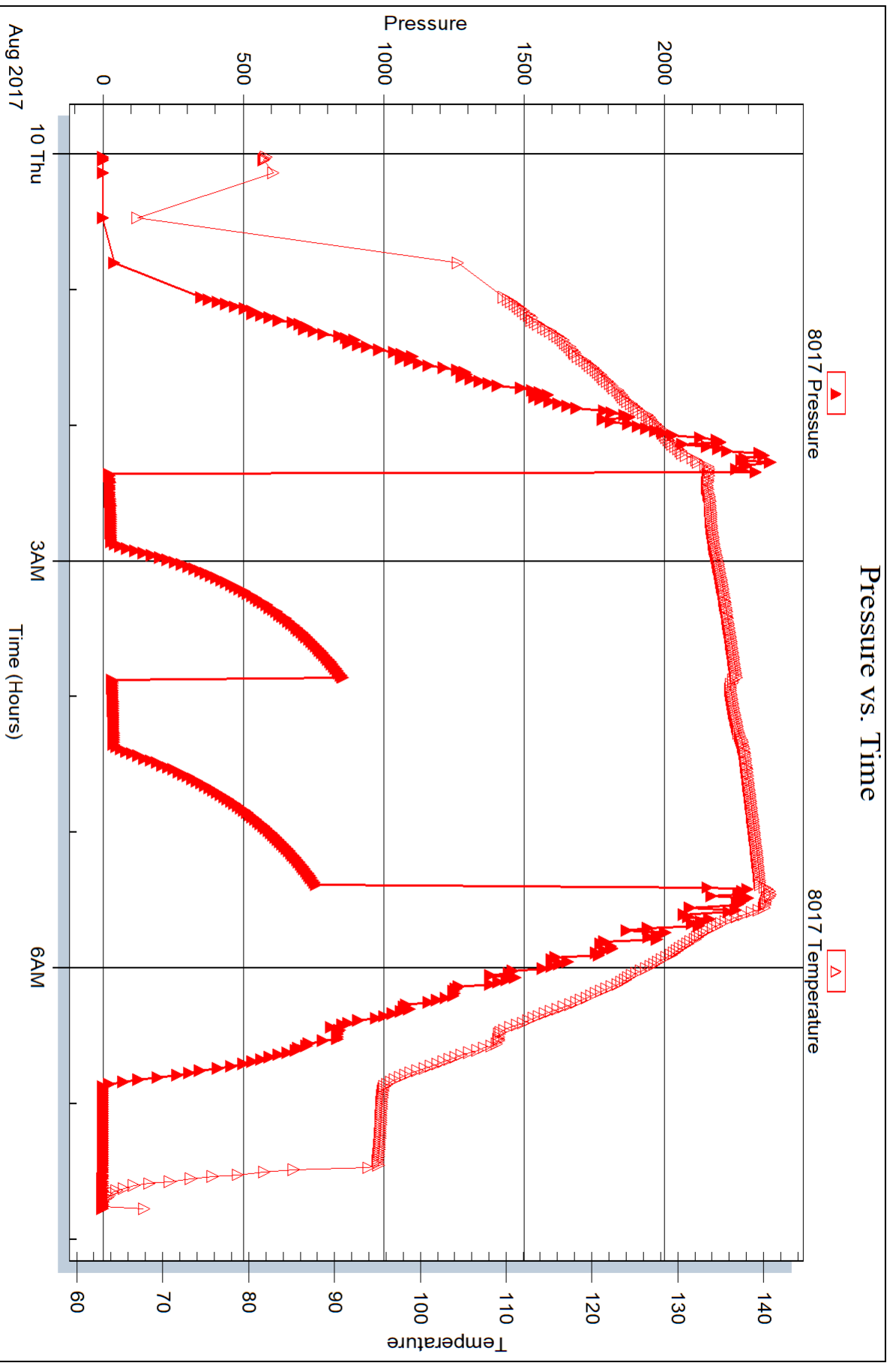
### Pressure vs. Time

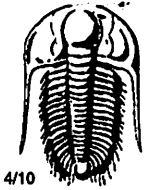


Trilobite Testing, Inc

Ref. No: 63339

Printed: 2017.08.10 @ 10:18:53





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63335

Well Name & No. Pancirini #3-7 Test No. 1 Date 8-5-17  
 Company Murfin Drilling Co Inc Elevation 3378 KB 3373 GL  
 Address 250 N. Water STE 300 Wichita, KS ~~67202~~ 67202  
 Co. Rep / Geo. Clayton Erickson Rig Murfin #24  
 Location: Sec. 7 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4176-4245 Zone Tested Oread  
 Anchor Length 69 Drill Pipe Run 3965 Mud Wt. 8.9  
 Top Packer Depth 4171 Drill Collars Run 205 175 Vis 65  
 Bottom Packer Depth 4176 (shale) Wt. Pipe Run - WL 6.4  
 Total Depth 4245 Chlorides 800 ppm System LCM 4  
 Blow Description IF: 1/4" Blow at open, built to 3 1/4"  
ISI: No blowback  
FF: Blow started at 5 min., built to 3"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>MO</u>	<u>1</u>	<u>50</u>	<u>-</u>	<u>49</u>
<u>60</u>	<u>OCM</u>	<u>5</u>	<u>34</u>	<u>-</u>	<u>61</u>
<u>60</u>	<u>60cm</u>	<u>10</u>	<u>5</u>	<u>-</u>	<u>85</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

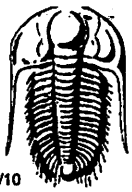
Rec Total 135 BHT 138 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2072  Test 1150 T-On Location 21:45 8/5  
 (B) First Initial Flow 17  Jars 250 T-Started 23:12  
 (C) First Final Flow 43  Safety Joint 75 T-Open 1:24  
 (D) Initial Shut-In 474  Circ Sub \_\_\_\_\_ T-Pulled 5:25  
 (E) Second Initial Flow 48  Hourly Standby \_\_\_\_\_ T-Out 7:45 8/6  
 (F) Second Final Flow 78  Mileage 114RT 85.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 473  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2063  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1810.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1810.50

Approved By [Signature] Our Representative James Winkler

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63336

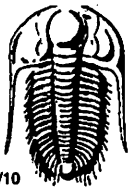
Well Name & No. Pancirini #3-7 Test No. 2 Date 8-6-17  
 Company Murfin Drilling Co. Inc Elevation 3378 KB 3373 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Clayton Erickson Rig Murfin #24  
 Location: Sec. 7 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4248 - 4330 Zone Tested LKC "A"  
 Anchor Length 82 Drill Pipe Run 4028 Mud Wt. 8.9  
 Top Packer Depth 4243 Drill Collars Run 205 Vis 54  
 Bottom Packer Depth 4248 (shale) Wt. Pipe Run - WL 6.8  
 Total Depth 4330 Chlorides 800 ppm System LCM 5  
 Blow Description IF: 1/4' Blow at open, built to BOB(11") at 22min  
ISI: Weak surface blowback, dead by 20min.  
FF: Blow started at 2min, built to BOB at 18 1/2 min.  
FSI: Blowback built to 2 3/4 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Oil</u>	<u>-</u>	<u>98</u>	<u>-</u>	<u>2</u>
<u>78</u>	<u>GMCO</u>	<u>18</u>	<u>54</u>	<u>-</u>	<u>28</u>
<u>237</u>	<u>GMCO</u>	<u>39</u>	<u>41</u>	<u>-</u>	<u>20</u>
	<u>GIP=390'</u>				

Rec Total 345 BHT 144 Gravity 37.6 API RW @ °F Chlorides ppm  
 (A) Initial Hydrostatic 2130  Test 1150 T-On Location 1700 8/6  
 (B) First Initial Flow 18  Jars 250 T-Started 18:27  
 (C) First Final Flow 97  Safety Joint 75 T-Open 20:28  
 (D) Initial Shut-In 1281  Circ Sub \_\_\_\_\_ T-Pulled 00:30  
 (E) Second Initial Flow 101  Hourly Standby \_\_\_\_\_ T-Out 2:40 8/7  
 (F) Second Final Flow 142  Mileage 114RT 85.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1212  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2121  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 60  Day Standby \_\_\_\_\_ Total 1810.50  
 Final Shut-In 90  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1810.50

Approved By [Signature] Our Representative James Winder  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63337

Well Name & No. Pancirini #3-7 Test No. 3 Date 8-7-17  
 Company Murfin Drilling Co, Inc Elevation 3378 KB 3373 GL  
 Address 250 N. Water STE 300 Wichita KS 67202  
 Co. Rep / Geo. Clayton Erickson Rig murfin #24  
 Location: Sec. 7 Twp. 25 Rge. 36w Co. Rawlins State KS

Interval Tested 4326 - 4385 Zone Tested LKC "D"  
 Anchor Length 59 Drill Pipe Run 4114 Mud Wt. 8.9  
 Top Packer Depth 4321 Drill Collars Run 205 Vis 54  
 Bottom Packer Depth 4326 (shale) Wt. Pipe Run - WL 6.8  
 Total Depth 4385 Chlorides 800 ppm System LCM 5

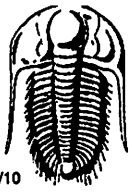
Blow Description IF: Blow built to BOB (11") at 1 1/2 min.  
ISI: No blowback  
FF: Blow built to BOB at 3 1/4 min.  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>Wcm w/oil spots</u>	<u>3</u>	<u>2</u>	<u>20</u>	<u>75</u>
<u>370</u>	<u>Wcm w/oil spots</u>	<u>8</u>	<u>1</u>	<u>30</u>	<u>61</u>
<u>1490</u>	<u>Water w/trace oil</u>	<u>-</u>	<u>trace</u>	<u>97</u>	<u>3</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1980 BHT 151 Gravity API RW .511 @ 79.1 °F Chlorides 11,000 ppm

(A) Initial Hydrostatic 2138  Test 1150 T-On Location 11:20  
 (B) First Initial Flow 198  Jars 250 T-Started 12:06  
 (C) First Final Flow 729  Safety Joint 75 T-Open 13:41  
 (D) Initial Shut-In 920  Circ Sub \_\_\_\_\_ T-Pulled 16:44  
 (E) Second Initial Flow 742  Hourly Standby \_\_\_\_\_ T-Out 19:30  
 (F) Second Final Flow 892  Mileage 85.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 923  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2107  Straddle \_\_\_\_\_  
 Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1810.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1810.50

Approved By [Signature] Our Representative James Winkler  
 TriLOBITE TESTING Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63338

Well Name & No. Pancirini #3-7 Test No. 4 Date 8-8-17  
 Company Murfin Drilling Co. Inc Elevation 3378 KB 3373 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Clayton Erickson Rig Murfin #24  
 Location: Sec. 7 Twp. 2S Rge. 36W Co. Rawlins State KS

Interval Tested 4435 - 4530 Zone Tested LKC "H-J"  
 Anchor Length 95 Drill Pipe Run 4213 Mud Wt. 8.9  
 Top Packer Depth 4430 Drill Collars Run 205 Vis 72  
 Bottom Packer Depth 4435 (shale) Wt. Pipe Run - WL 6.4  
 Total Depth 4530 Chlorides 900 ppm System LCM 5  
 Blow Description IF: 1/4" Blow at open, built to 2 1/2"  
ISI: No blowback  
FF: Blow built to 4"  
FSI: No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>SMCO</u>	<u>-</u>	<u>94</u>	<u>6</u>	<u>6</u>
<u>53</u>	<u>GOCM</u>	<u>10</u>	<u>35</u>	<u>-</u>	<u>55</u>
	<u>GIP = 115'</u>				

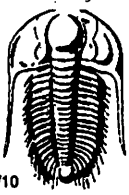
Rec Total 63 BHT 141 Gravity 31.2 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 2243  Test 1150 T-On Location 13:15  
 (B) First Initial Flow 18  Jars 250 T-Started 14:04  
 (C) First Final Flow 27  Safety Joint 75 T-Open 16:05  
 (D) Initial Shut-In 1043  Circ Sub \_\_\_\_\_ T-Pulled 20:06  
 (E) Second Initial Flow 28  Hourly Standby \_\_\_\_\_ T-Out 22:10  
 (F) Second Final Flow 42  Mileage 114RT 85.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1062  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2243  Straddle \_\_\_\_\_  
 Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1810.50

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1810.50  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative James Winder

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63339

Well Name & No. Pancirini #3-7 Test No. 5 Date 8-9-17  
 Company Murfin Drilling Co. Inc Elevation 3378 KB 3373 GL  
 Address 250 N. Water STE 300 Wichita, KS 67202  
 Co. Rep / Geo. Clayton Erickson Rig Murfin #24  
 Location: Sec. 7 Twp. 2s Rge. 36w Co. Rawlins State KS

Interval Tested 4624-4760 Zone Tested marmaton - Ft. Scott  
 Anchor Length 136 Drill Pipe Run 4401 Mud Wt. 9.0  
 Top Packer Depth 4619 Drill Collars Run 205 Vis 70  
 Bottom Packer Depth 4624 (shale) Wt. Pipe Run - WL 6.8  
 Total Depth 4760 Chlorides 900 ppm System LCM 4  
 Blow Description IF: Blow built to 1 3/4"  
ISI: No blowback  
FF: No blow  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>Mud w/oil spots</u>	<u>1</u>		<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 45 BHT 142 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2339  Test 1150 T-On Location 23:05 8/9  
 (B) First Initial Flow 20  Jars 250 T-Started 00:01  
 (C) First Final Flow 28  Safety Joint 75 T-Open 2:21  
 (D) Initial Shut-In 854  Circ Sub \_\_\_\_\_ T-Pulled 5:23  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 7:45 8/10  
 (F) Second Final Flow 37  Mileage 114 85.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 759  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2302  Straddle \_\_\_\_\_  Ruined Shale Packer 350  
 Initial Open 30  Shale Packer 250  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 350  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 2160.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1810.50

Approved By \_\_\_\_\_ Our Representative James Winder

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**TREATMENT REPORT**



**HURRICANE SERVICES INC**

Customer:	Murfin Drilling Company Inc.	Date:	8/2/2017	Ticket No.:	100783
Field Rep.:	Arturo				
Address:					
City, State:					
County, Zip:					

Field Order No.:	100783	Open Hole:		Perf Depths (ft)	Perfs
Well Name:	Pancirni # 3-7	Casing Depth:	344'		
Location:	McDonald	Casing Size:	8.625 23 Lb		
Formation:		Tubing Depth:			
Type of Service:	8 5/8 Surface	Tubing Size:			
Well Type:	Oil	Liner Depth:			
Age of Well:	New	Liner Size:			
Packer Type:		Liner Top:			
Packer Depth:		Liner Bottom:			
Treatment Via:	Casing	Total Depth:	345'		
				Total Perfs	0

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N2/CO2	STP	ANNULUS				
2:00 PM					Called Out			
6:45 PM					On location with Trucks Hold Safety Meeting			
					Spot & Set Up Trucks			
					TD= 346' TP= 344' SJ=20'			
					Run 8 Jt's 23 Lb Csg Set @ 345' Centralizers Jt 1/2 1 Jt 4			
7:20 PM					Start Casing			
8:55 PM					Casing On Bottom			
9:05 PM					Hook Up To Casing & Break Circulation W/Rig			
9:20 PM	4.0		250.0		Start Pumping H2O			6.00
9:23 PM	4.0		250.0		Start Mix 285 Sacks Common 2% Gel 3% C.C. @ 16 Lb/Gal			69.03
	4.0		145.0		Start Displacement H2O			20.74
9:45 PM			200.0		Shut Down Close Valve on Casing			
					Good Circulation Thru Job			
					Circulate 6 Bbl's Cement To Pit			
					Off Location			
					Thank You			
					Please Call Again			
					Tony Cody Darren			
<b>TOTAL:</b>								94.77

**SUMMARY**

Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
4.0	4.0	250.0	211.3

**PRODUCTS USED**

285 Sacks Common 2%Gel 3% Calcium Chloride

Treater: Tony P

Customer: Arturo Cabezas

**TREATMENT REPORT**



**HURRICANE SERVICES INC**

<b>Customer:</b> Murfin Drilling Company Inc.	<b>Date:</b> 8/11/2017	<b>Ticket No.:</b> 100786
<b>Field Rep:</b> Glen Wahman		
<b>Address:</b>		
<b>City, State:</b>		
<b>County, Zip:</b>		

<b>Field Order No.:</b> 100786	<b>Open Hole:</b>	<b>Perf Depths (ft)</b>	<b>Perfs</b>
<b>Well Name:</b> Pancini # 3-7	<b>Casing Depth:</b> 4894.83		
<b>Location:</b> McDonald	<b>Casing Size:</b> 5.5 15.5 Lb		
<b>Formation:</b>	<b>Tubing Depth:</b>		
<b>Type of Service:</b> Longstring	<b>Tubing Size:</b>		
<b>Well Type:</b> Oil	<b>Liner Depth:</b>		
<b>Age of Well:</b> New	<b>Liner Size:</b>		
<b>Packer Type:</b>	<b>Liner Top:</b>		
<b>Packer Depth:</b>	<b>Liner Bottom:</b>		
<b>Treatment Via:</b> Casing	<b>Total Depth:</b> 4900'		
		<b>Total Perfs</b>	<b>0</b>

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N2/CO2	STP	ANNULUS				
6:30 AM					Called Out			
9:00 AM					On Location With Float Equipment			
					Run 117 Jt's 5.5 15.5 Lb			
					TD= 4900' TP=4894.83 SJ=22.07 AFU Float Shoe LD Baffle			
					Turbolizers on Jt's 1-2-3-4-5-6-7-8-9-13-15-18-39-64			
					Cement Baskets Jt's 19-40-65- Scratcher 10			
9:15 AM					Trucks On Location			
10:40 AM					Start Casing Break Circulation 1/2 way Jt 65			
1:00 PM					Casing On Bottom Drop Ball			
1:15 PM					Hook Up To Casing Break Circulation W/Rig Rotate 1 Hr			
12:00 AM					Start Pumping Preflushes			
	4.0		160.0		5 BBL's H2O			5.00
	4.0		150.0		12 BBL's Mud Flush			12.00
	4.0		150.0		5 BBL's H2O			5.00
12:05 AM	2.0		100.0		Plug Rat & Mouse Holes 50 Sacks Lead			
12:15 AM	4.3		250.0		Start Mix & Pump Lead @ 12 Lb/Gal Yield 2.61			118.00
	4.3		250.0		Start Mix & Pump Tail @ 14.8 Lb/Gal Yield 1.50			53.43
1:15 AM					Shut Down Clear Pump & Lines Drop LD Plug			15.00
<b>TOTAL:</b>						-	-	419.43

**SUMMARY**

Max Fl. Rate	Avg Fl. Rate	Max PSI	Avg PSI
7.0	4.1	1,500.0	446.0

**PRODUCTS USED**

300 Sacks H-Con 200 Sacks H-Long

Treater: Todd Seba Tony P

Customer: Glen Wahman

